

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte THARWAT F. TADROS and
PHILIP TAYLOR

Appeal No. 2001-2345
Application No. 08/898,627

ON BRIEF

Before WILLIAM F. SMITH, SCHEINER, and ADAMS, Administrative Patent Judges.

WILLIAM F. SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the final rejection of claims 10 through 22. Subsequently thereto, claims 10 through 15 and 17 were canceled (Paper No. 22, September 4, 1998).¹ This leaves claims 16 and 18 through 22 for our review.

¹ Paper No. 22 contains a handwritten statement from the examiner dated September 22, 1998, stating "Do Not Enter." However, the examiner issued an Advisory Action on September 24, 1998, which states that the proposed amendment will be entered upon filing an appeal. The Appeal Brief and Examiner's Answer are premised upon claims 10 through 15 and 17 being canceled. Accordingly, we will assume the examiner's handwritten notation on Paper No. 22 is in error.

Claims 16 and 22 are representative of the subject matter on appeal and read as follows:

16. A containerization system comprising a water dispersible gel contained in a water-soluble or water-dispersible bag, the water dispersible gel being obtained by a method comprising mixing:

- (a) 1-60% by weight of an ionic, water-soluble agrochemical;
- (b) 1-4% by weight of a crosslinked polyacrylic acid;
- (c) 30-80% by weight of water; and, finally,
- (d) 2-20% by weight of a base;

the water dispersible gel having pH in the range 6 to 10, a storage modulus (G') in the range 20-500 Pa and a Tan δ of less than 0.5.

22. A containerization system comprising a water dispersible gel contained in a water-soluble or water-dispersible bag, the water dispersible gel comprising:

- (a) an ionic, water-soluble agrochemical;
- (b) the reaction product of a crosslinked polyacrylic acid and a base; and
- (c) 30-80% by weight of water;

wherein the water dispersible gel has a pH in the range 6 to 10, a storage modulus (G') in the range 20-500 Pa and a Tan δ or less than 0.5.

The references relied upon by the examiner are:

Bashaw et al. (Bashaw)	3,090,736	May 21, 1963
Chen et al. (Chen)	5,341,932	Aug. 30, 1984
Great Britain Patent ('185)	948,185	Jan. 29, 1964

An additional reference discussed by the examiner and appellants is:

Carbopol® Brochure (Carbopol®) , "Water Soluble Resins"

Claims 16 and 18 through 22 stand rejected under 35 U.S.C. § 103(a). The examiner refers the reader of the answer to Paper No. 19 for a statement of the rejection. Turning to Paper No. 19, we find that claims 10 through 22 as then pending

were rejected under this section of the statute with the examiner relying upon '185, Chen, and Bashaw as evidence of obviousness.

We reverse.

Discussion

The claimed invention is directed to a containerization system which comprises a water dispersible gel contained in a water-soluble or water dispersible bag. The water dispersible gel comprises an ionic, water-soluble agrochemical, a crosslinked polyacrylic acid, water, and a base. Claim 16 defines the water dispersible gel in product-by-process format requiring that the gel be formed by mixing the agrochemical, and crosslinked polyacrylic acid in water followed by addition of the base. Claim 22 is in a slightly different format but still requires a reaction product of a crosslinked polyacrylic acid and a base. Importantly, all the claims require that the water dispersible gel have a pH in the range 6 to 10, a storage modulus (G') in the range 20-500 Pa and a $\tan \delta$ of less than 0.5.

As seen from the format of the claims on appeal and confirmed by the specification, the water dispersible gel of the claimed invention is formed by reacting a crosslinked polyacrylic acid with base. As explained:

It is preferred that sufficient base is added to cause the pH of the water dispersible gel to be in the range 6 to 10, especially 6 to 8. If too much base is added the pH of the mixture will be too high and the gel formed will break down. Thus, in another aspect the present invention provides a water dispersible gel comprising (a) an effective amount of an ionic, water soluble agrochemical, (b) an effective amount of a crosslinked polyacrylic acid, (c) water, and (d) an amount of a base sufficient to cause the pH of the resulting gel to lie in the range 6 to 10 (especially 6 to 8, particularly 6 to 7).

Specification, page 3, first paragraph.

Appellants also explain:

By using the phase shift, δ , between the stress and strain wave forms the complex modulus may be split into two components - the storage and loss moduli are a measure of the energy stored and the energy lost respectively, in an oscillatory cycle. the relative magnitude of the loss and storage moduli ($G''/G' = \tan \delta$) provides information on the elasticity of the gel. The lower the value of $\tan \delta$ the greater the degree of gelation.

Specification, page 3, last paragraph.

'185 describes biologically active spray compositions which include agrochemicals. Page 1, lines 11-18. The agrochemical is mixed with a polymer which is swellable in water. Page 2, lines 27-36. In a preferred embodiment of '185, a substantially water insoluble, water-swallowable, crosslinked polymer which may be a high molecular weight homopolymer or copolymer of acrylic acid is used. Page 2, lines 81-91. It is also preferred that crosslinked monovalent cationic salts of acrylic acid are used. Page 2, lines 92-104. The swelled gel of '185 is formed "by merely adding the polymer to the aqueous dispersion with agitation." Page 3, lines 25-31.

Chen is relied upon by the examiner for its teaching of containerization of aqueous gels which comprise agrochemicals using water-soluble bags. Paper No. 19, page 2. The examiner concludes, "It would have been obvious to one of ordinary skill in the art to containerize the composition of '185 in water-soluble bags to achieve the beneficial effect of safeguarding the environment in view of Chen." Id.

The examiner amplifies his reasoning in the Answer stating "[t]he alkali polyacrylates of '185 are made by adding base to CARBOPOL" (Answer, page 3), and "[a]pplicants add base to crosslinked polyacrylic acid to achieve a gel.

'185 begins with a neutralized polyacrylic acid gel which is subsequently crosslinked.

The compositions in the end are the same." (Answer, page 4).

We first note that the examiner's conclusion of obviousness is based upon clearly erroneous fact finding. The examiner's statement that the polyacrylates of '185 are made by adding base to Carbopol® is not supported by any reading of the reference. '185 describes crosslinked polyacrylates in the most generic sense and does not make any reference to polymers sold under the trademark Carbopol®. We believe the examiner's error was based upon appellants' use of Carbopol® polymers in the working examples of the specification in an attempt to force fit appellants' materials into the teachings of the reference. However, the fact remains that '185 does not directly teach, nor do we find any suggestion therein, the crosslinked acrylic acid polymer of '185 be one sold under the trademark Carbopol®.

Furthermore, even if the examiner's fact finding was correct, the examiner has not properly relied upon the Carbopol® brochure as evidence of obviousness. The stated rejection is based upon '185, Chen, and Bashaw, not the Carbopol® brochure. As stated in In re Hoch, 428 F.2d 1341, 1342 n. 3, 166 USPQ 406, 407 n. 3 (CCPA 1970), "Where a reference is relied on to support a rejection, whether or not in a "minor capacity," there would appear to be no excuse for not positively including the reference in the statement of the rejection."

Be that as it may, viewing the examiner's rejection in its most favorable light, it is that the gel described in '185 does not differ from the gel required by the claims on appeal. In other words, a gel produced by adding water to a crosslinked salt of polyacrylic acid as described in '185 does not differ from a gel resulting from the

addition of a base to a crosslinked polyacrylic acid as required by the claims on appeal.

The factual support for this portion of the examiner's position is unclear. In any event, the examiner's position, regardless of its correctness, does not take into account the subject matter of the claims as a whole.

Each claim requires that the water dispersible gel have a specific pH, a storage modulus (G') and a $\tan \delta$. The examiner's conclusion that "[t]he compositions in the end are the same" lacks factual support. At best, the examiner asserts "[a]s to the claimed modulus, and Tangent Delta, the obvious composition must inherently possess such a property because the composition is the same as that claimed." (Paper No. 19, page 3). First of all, it is unclear what the examiner considers to be the "obvious composition." It is clear from the specification of this application that not every gel formed of a crosslinked polyacrylic acid, will have the storage modulus G' and $\tan \delta$ values required by the claims on appeal as appellants' description of the present invention in the specification envisions gels having values for these parameters outside the claimed ranges. Specification, page 4, lines 2-12. Nor do we find the examiner's cryptic statement that Bashaw is relied upon to apparently show that one could determine the $\tan \delta$ of the '185 polymers, Answer, page 4, to be enlightening. The examiner has not pointed to any specific composition described in '185 which would provide a reasonable basis for appellants to test in order to determine the inherent properties thereof. It appears that just as not all of the gels according to the present invention necessarily have the claimed properties, it does not appear that all of the gels described in '185 will have those properties. Rather, from this record, it appears that one must judiciously select among the myriad gels described in '185 and select those

which may meet the requirements of the claims on appeal, if in fact '185 describes such gels. Assuming that any of the gels described in '185 meet the requirements of the claims on appeal, the examiner has not adequately explained why the prior art relied upon by itself, suggests a selection of those gels. On this record, the examiner's obviousness rejection is based upon impermissive hindsight and cannot be sustained.

The decision of the examiner is reversed.

REVERSED

William F. Smith
Administrative Patent Judge

Toni R. Scheiner
Administrative Patent Judge

Donald E. Adams
Administrative Patent Judge

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